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EXAMINER	
PAYNE, SHARON E	
ART UNIT	**PAPER NUMBER**
2875	

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Please find below and/or attached an Office communication concerning this application or proceeding.

8/1

Office Action Summary	Application No.	Applicant(s)
	10/650,476	DOWLING ET AL.
	Examiner	**Art Unit**
	Sharon E. Payne	2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-101* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-101* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The finality of the Office Action dated 12 January 2006 is withdrawn, and rejections based on newly discovered references follow.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-3, 11-13, 18, 20-21, 38-40, 48-50, 55, 57-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. (U.S. Patent 6,031,343) in view of Shintani (U.S. Patent 5,646,608).

Regarding claim 1, Recknagel et al. discloses a method of illuminating an environment comprising the steps of providing a lighting control signal for controlling a lighting system that has a plurality of lights disposed in a plurality of positions within the environment (Fig. 1, see line coming out of the central controller), providing a control system for generating a lighting control

signal (central controller, reference number 110), providing a connector between the control system and a plurality of the lights (reference numbers 120_n and 125), providing an address of the connector (Fig. 1, address module), wherein a light connected to the addressed connector responds to an addressed control signal that is addressed to that connector (Fig. 1), wherein the connector is a cable (reference number 125) extending between the control system and the plurality of lights (Fig. 1), the cable having a head end and a base end (Fig. 1). Recknagel does not disclose a two-way data interface.

Shintani discloses a two-way data interface (reference number 77) between the lights (reference number 51E) and the control system (CPU, reference number 71).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the data interface of Shintani in the apparatus of Recknagel so that a CPU could be used to control the lights remotely for the convenience of the user. See Fig. 4 of Shintani.

Concerning claim 2, Recknagel et al. discloses providing the address of the connector comprises providing the address at the head end of the cable (Fig. 1).

Regarding claim 3, Recknagel et al. discloses the connector being configured to receive a modular light system (Fig. 1), wherein the light system responds to control signals addressed to the address of the connector to which the light system is connected (Fig. 1).

Concerning claim 11, Recknagel et al. discloses the environment containing a corridor (Fig. 2), wherein the light system are disposed to illuminate at least one of the ceiling and the floor of the corridor (Fig. 2). (A set of bowling lanes is a very wide corridor.)

Regarding claim 12, Recknagel et al. discloses the steps of controlling a plurality of lights using the control system to provide illumination of more than one color (abstract, Fig. 1), wherein one available color of light is white light (column 4, line 40) and another available color is non-white light (column 4, lines 30-42).

Concerning claim 13, Recknagel et al. discloses the white light being generated by a combination of red, green and blue light sources (column 4, lines 30-42).

Regarding claim 18, Recknagel et al. discloses the lights comprising LEDs selected from the group consisting of red, green, blue, UV, amber, orange and white (column 4, lines 30-42).

Concerning claim 20, Recknagel et al. discloses the step of providing a secondary system for operating on the light output of the light system (column 3, lines 15-21).

Regarding claim 21, Recknagel et al. discloses the secondary system being selected from the group comprising an optic, a phosphor, a lens, a filter, Fresnel lens, a mirror, and a reflective coating (lens, column 3 in lines 15-21).

Concerning claim 38, Recknagel et al. discloses a lighting control signal for controlling a lighting system that has a plurality of lights disposed in a plurality of positions within the environment (Fig. 1), a control system for generating a lighting control signal (reference number 110), a connector (reference numbers 120_n and 125) between the control system and a plurality of the lights (Fig. 1), and an address facility of a connector (reference number 120_n), wherein a light connected to the addressed connector responds to an addressed control signal that is addressed to that connector (Fig. 1), wherein the connector is a cable (reference number 125) extending between the control system and the plurality of lights (Fig. 1), the cable having a head end and a base end (Fig. 1). Recknagel does not disclose a two-way data interface.

Shintani discloses a two-way data interface (reference number 77) between the lights (reference number 51E) and the control system (CPU, reference number 71).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the data interface of Shintani in the apparatus of Recknagel so that a CPU could be used to control the lights remotely for the convenience of the user. See Fig. 4 of Shintani.

Regarding claim 39, Recknagel et al. discloses the address facility is at the head end of the cable (Fig. 1).

Concerning claim 40, Recknagel et al. discloses the connector being configured to receive a modular light system (Fig. 1), wherein the light system responds to control signals addressed to the address of the connector to which the light system is connected (Fig. 1).

Regarding claim 48, Recknagel et al. discloses the environment containing a corridor (Fig. 2), wherein the light system are disposed to illuminate at least one of the ceiling and the floor of the corridor (Fig. 2). (A set of bowling lanes is a very wide corridor.)

Concerning claim 49, Recknagel et al. discloses a plurality of lights using the control system to provide illumination of more than one color (Fig. 1, column 4 in lines 30-42), wherein one available color of light is white light and another available color is non-white light (Fig. 1, column 4 in lines 30-42).

Regarding claim 50, Recknagel et al. discloses the white light being generated by a combination of red, green and blue light sources (column 4, lines 30-42).

Concerning claim 55, Recknagel et al. discloses the lights comprising LEDs selected from the group consisting of red, green, blue, UV, amber, orange and white (column 4, lines 30-42).

Regarding claim 57, Recknagel et al. discloses a secondary system for operating on the light output of the light system (column 3, lines 15-21).

Concerning claim 58, Recknagel et al. discloses the secondary system being selected from the group comprising an optic, a phosphor, a lens, a filter, Fresnel lens, a mirror, and a reflective coating (lens, column 3 in lines 15-21).

5. Claims 4, 5, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. in view of Shintani as applied to claims 1 and 38 and further in view of Sugden (U.S. Patent 5,406,176).

Regarding claims 4 and 41 Recknagel et al. and Shintani do not disclose the light system communicating failure data. Sugden discloses the light system communicating failure data for the lights to the control system via the two-way data interface between the lights and the control system (column 9, line 55, to column 10, line 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Sugden in the apparatus of Recknagel et al. and Shintani to compensate for a failure of a light source. See column 9, line 55, to column 10, line 5, of Sugden.

Concerning claims 5 and 42, Recknagel et al. discloses the control system communicating data with the light system (Fig. 1), and the data is selected from the group consisting of control data, temperature data, performance data, performance history data, light histogram data, intensity data, color temperature data, on-off status data, color data, time data, total-on-time data, light show data, lighting effect data, alarm data, maintenance data, power-usage data, system status data, customer-entered data, advertising data, branding data and communications data (light show data, column 7 in lines 60-67).

6. Claims 6-10 and 43-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. and Shintani as applied to claims 1 and 38 and further in view of Speirs et al. (U.S. Patent 5,677,603).

Regarding claim 6, Recknagel et al. and Shintani do not disclose a transportation environment. Speirs et al. discloses the environment as a transportation environment (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the transportation environment of Speirs et al. with the apparatus of Recknagel et al. and Shintani to enable people to be sheltered while being transported from one place to another.

Concerning claim 7, Recknagel et al. discloses the step of providing an interface of the lighting control system to another computer system (reference number 150, Fig. 1). Recknagel et al. and Shintani do not disclose an aircraft cabin. Speirs et al. discloses the environment as an aircraft cabin (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the aircraft cabin of Speirs et al. with the apparatus of Recknagel et al. and Shintani to enable people to be sheltered while being transported from one place to another.

Regarding claim 8, Recknagel et al. and Shintani do not specifically disclose a shielding facility to minimize emission of interfering signals. Speirs et al. discloses the step of providing a facility for shielding an element of the lighting system to minimize emission of interfering signals (column 5, lines 5-26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the shielding facility of Speirs et al. in the apparatus of Recknagel et al. and Shintani to prevent light from entering certain areas of the cabin at inappropriate times. See column 5, lines 5-26, of Speirs et al.

Regarding claim 9, Recknagel et al. discloses the other computer system being at least one of a steering system, navigation system, a safety system, a sensor system, an alarm

system, a maintenance system, a communications system or an entertainment system (an entertainment system, column 8 in lines 4-10).

Concerning claim 10, Recknagel et al. and Shintani do not specifically disclose light systems illuminating the environment of a plurality of seats. Speirs et al. discloses an environment containing a plurality of seats (aircraft cabin, abstract), wherein the light systems are disposed to illuminate the environments of the seats (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the environment of Speirs et al. with the apparatus of Recknagel et al. to enable people to travel by air.

Regarding claim 43, Recknagel et al. and Shintani do not disclose a transportation environment. Speirs et al. discloses the environment as a transportation environment (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the transportation environment of Speirs et al. with the apparatus of Recknagel et al. and Shintani to enable people to be transported from one place to another.

Concerning claim 44, Recknagel et al. discloses the step of providing an interface of the lighting control system to another computer system (reference number 150, Fig. 1). Recknagel et al. and Shintani do not disclose an aircraft cabin. Speirs et al. discloses the environment as an aircraft cabin (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the aircraft cabin of Speirs et al. with the apparatus of Recknagel et al. and Shintani to enable people to be sheltered while being transported from one place to another.

Regarding claim 45, Recknagel et al. and Shintani do not specifically disclose a shielding facility to minimize emission of interfering signals. Speirs et al. discloses the step of

providing a facility for shielding an element of the lighting system to minimize emission of interfering signals (column 5, lines 5-26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the shielding facility of Speirs et al. in the apparatus of Recknagel et al. and Shintani to prevent light from entering certain areas of the cabin at inappropriate times. See column 5, lines 5-26, of Speirs et al.

Regarding claim 46, Recknagel et al. discloses the other computer system being at least one of a steering system, navigation system, a safety system, a sensor system, an alarm system, a maintenance system, a communications system or an entertainment system (an entertainment system, column 8 in lines 4-10).

Concerning claim 47, Recknagel et al. and Shintani do not specifically disclose light systems illuminating the environment of a plurality of seats. Speirs et al. discloses an environment containing a plurality of seats (aircraft cabin, abstract), wherein the light systems are disposed to illuminate the environments of the seats (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the environment of Speirs et al. with the apparatus of Recknagel et al. and Shintani to shelter people who are traveling by air.

7. Claims 14-16 and 51-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel in view of Shintani as applied to claims 12 and 49 and further in view of Gotoh (U.S. Patent 5,384,519).

Regarding claim 14, Recknagel et al. and Shintani do not disclose white light being generated by a white light source. Gotoh discloses white light being generated by a white light source (column 4, lines 60-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixing apparatus of Gotoh in the apparatus of Recknagel and Shintani to produce the desired color light in a more simple way (column 3, lines 30-40).

Regarding claim 51, Recknagel et al. and Shintani do not disclose a white light source. Gotoh discloses white light being generated by a white light source (column 4, lines 60-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixing apparatus of Gotoh in the apparatus of Recknagel and Shintani to produce the desired color light in a more simple way (column 3, lines 30-40).

Concerning claims 15 and 52, Recknagel et al. and Shintani do not disclose mixing light with light from another light source. Gotoh discloses modifying the color temperature of white light by mixing light from a second light source (Table II).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixing apparatus of Gotoh in the apparatus of Recknagel and Shintani to produce the desired color light in a more simple way (column 3, lines 30-40).

Regarding claims 16 and 53, Recknagel et al. and Shintani do not disclose mixing light with light from another light source. Gotoh discloses the second light source being a light source selected from the group consisting of a white source of a different color temperature, an amber source, a green source, a red source, a yellow source, an orange source, a blue source and a UV source (a green source, Table II).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixing apparatus of Gotoh in the apparatus of Recknagel and Shintani to produce the desired color light in a more simple way (column 3, lines 30-40).

8. Claims 17, 19, 54 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. in view of Shintani as applied to claims 12, 18, 49 and 55 above, and further in view of Kuwabara et al. (U.S. Patent 6,508,564).

Concerning claim 17 and 54, Recknagel et al. discloses LEDs of red, green and blue colors (column 4, lines 35-40). Recknagel et al. and Shintani do not disclose white LEDs. Kuwabara et al. discloses LEDs of a white color (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixing apparatus of Kuwabara et al. in the apparatus of Recknagel and Shintani to produce a light source that "suppress[es] chromaticity difference[s] even in using a point light source" (column 2, lines 50-55, of Kuwabara et al.).

Regarding claims 19 and 56, Recknagel et al. and Shintani do not disclose white LEDs of more than one color temperature. Kuwabara et al. discloses white LEDs of more than one color temperature (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixing apparatus of Kuwabara et al. in the apparatus of Recknagel and Shintani to produce a light source that "suppress[es] chromaticity difference[s] even in using a point light source" (column 2, lines 50-55, of Kuwabara et al.).

9. Claims 22-25, 27-29, 30, 31, 59, 60-62, 64-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel in view of Kuwabara et al.

Concerning claim 22, Recknagel et al. discloses the steps of providing a lighting control system (reference number 110, Fig. 1), controlling a plurality of lights using the control system to provide illumination of more than one color (abstract, Fig. 1), wherein one available color of light is white light (column 4, line 40) and another available color is non-white light (column 4,

lines 30-42). Recknagel does not disclose modifying the color temperature of a white light source by mixing the light of another white light source with a different color temperature with it.

Kuwabara et al. discloses the color temperature of at least some white light is modified by mixing light from a white source of light of a different color temperature (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixing apparatus of Kuwabara et al. in the apparatus of Recknagel and Shintani to produce a light source that "suppress[es] chromaticity difference[s] even in using a point light source" (column 2, lines 50-55, of Kuwabara et al.).

Regarding claim 23, Recknagel et al. discloses the white light being generated by a combination of red, green and blue light sources (column 4, lines 30-42).

Concerning claim 25, Recknagel et al. does not disclose modifying white light with light from another source. Kuwabara et al. discloses modifying white light by mixing light from a second light source (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixing apparatus of Kuwabara et al. in the apparatus of Recknagel and Shintani to produce a light source that "suppress[es] chromaticity difference[s] even in using a point light source" (column 2, lines 50-55, of Kuwabara et al.).

Regarding claim 27, Recknagel et al. discloses LEDs of red, green and blue colors (column 4, lines 35-40). Recknagel et al. does not disclose white LEDs. Kuwabara et al. discloses LEDS of a white color (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixing apparatus of Kuwabara et al. in the apparatus of Recknagel and Shintani to produce a light source that "suppress[es] chromaticity difference[s] even in using a point light source" (column 2, lines 50-55, of Kuwabara et al.).

Concerning claim 28, Recknagel et al. discloses the lights comprising LEDs selected from the group consisting of red, green, blue, UV, amber, orange and white (column 4, lines 30-42).

Regarding claim 29, Recknagel et al. does not disclose the white LEDs including LEDs of more than one color temperature. Kuwabara discloses the white LEDs including LEDs of more than one color temperature (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixing apparatus of Kuwabara et al. in the apparatus of Recknagel and Shintani to produce a light source that "suppress[es] chromaticity difference[s] even in using a point light source" (column 2, lines 50-55, of Kuwabara et al.).

Regarding claim 30, Recknagel et al. discloses the step of providing a secondary system for operating on the light output of the light system (column 3, lines 15-21).

Concerning claim 31, Recknagel et al. discloses the secondary system being selected from the group comprising an optic, a phosphor, a lens, a filter, Fresnel lens, a mirror, and a reflective coating (lens, column 3 in lines 15-21).

Regarding claim 59, Recknagel et al. discloses a lighting control system for controlling a plurality of lights (reference number 110) using the control system to provide illumination of more than one color (abstract), wherein one available color of light is white light (column 4, line 40) and another available color is non-white light (column 4, lines 30-42).). Recknagel does not disclose modifying the color temperature of a white light source by mixing the light of another white light source with a different color temperature with it.

Kuwabara et al. discloses the color temperature of at least some white light is modified by mixing light from a white source of light of a different color temperature (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixing apparatus of Kuwabara et al. in the apparatus of Recknagel and Shintani to produce a light source that "suppress[es] chromaticity difference[s] even in using a point light source" (column 2, lines 50-55, of Kuwabara et al.).

Concerning claim 60, Recknagel et al. discloses the white light being generated by a combination of red, green and blue light sources (column 4, lines 30-42).

Regarding claims 24 and 61, Recknagel et al. does not disclose a white light source. Kuwabara et al. discloses white light being generated by a white light source (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixing apparatus of Kuwabara et al. in the apparatus of Recknagel and Shintani to produce a light source that "suppress[es] chromaticity difference[s] even in using a point light source" (column 2, lines 50-55, of Kuwabara et al.).

Concerning claim 62, Recknagel et al. does not disclose modifying white light with light from another source. Kuwabara et al. discloses modifying white light by mixing light from a second light source (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixing apparatus of Kuwabara et al. in the apparatus of Recknagel and Shintani to produce a light source that "suppress[es] chromaticity difference[s] even in using a point light source" (column 2, lines 50-55, of Kuwabara et al.).

Concerning claim 64, Recknagel et al. discloses LEDs of red, green and blue colors (column 4, lines 35-40). Recknagel et al. does not disclose white LEDs. Kuwabara et al. discloses LEDS of a white color (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixing apparatus of Kuwabara et al. in the apparatus of Recknagel and

Shintani to produce a light source that "suppress[es] chromaticity difference[s] even in using a point light source" (column 2, lines 50-55, of Kuwabara et al.).

Regarding claim 65, Recknagel et al. discloses the lights comprising LEDs selected from the group consisting of red, green, blue, UV, amber, orange and white (column 4, lines 30-42).

Concerning claim 66, Recknagel et al. does not disclose white LEDs. Kuwabara et al. discloses the white LEDs including LEDs of more than one color temperature (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixing apparatus of Kuwabara et al. in the apparatus of Recknagel and Shintani to produce a light source that "suppress[es] chromaticity difference[s] even in using a point light source" (column 2, lines 50-55, of Kuwabara et al.).

Concerning claim 67, Recknagel et al. discloses the step of providing a secondary system for operating on the light output of the light system (column 3, lines 15-21).

Regarding claim 68, Recknagel et al. discloses the secondary system being selected from the group comprising an optic, a phosphor, a lens, a filter, Fresnel lens, a mirror, and a reflective coating (lens, column 3 in lines 15-21).

10. Claims 26 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. in view of Kuwabara et al. as applied to claims 24 and 62 and further in view of Rahm et al. (U.S. Patent 6,636,003).

Concerning claims 26 and 63, Recknagel et al., Shintani and Kuwabara et al. do not specifically disclose a colored light source modifying the white light source as described in the claim.

Rahm et al. discloses the second light source being a light source selected from the group consisting of a white source of a different color temperature, an amber source, a green

source, a red source, a yellow source, an orange source, a blue source and a UV source (amber, column 2 in lines 45-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Rahm et al. in the apparatus of Recknagel et al., Shintani and Kuwabara et al. to provide an apparatus with a white light that "can be easily adjusted to produce a white light of a desired color temperature" to create an aesthetically pleasing lighting effect. See column 2, lines 27-30, of Rahm et al.

11. Claims 32, 33-36, 69-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel in view of Launey et al. (U.S. Patent 5,086,385).

Regarding claim 32, Recknagel et al. discloses the steps of providing a lighting control signal for controlling a lighting system that has a plurality of lights disposed in a plurality of positions within the environment (Fig. 1), providing a control system for generating a lighting control signal (reference number 110), providing a connector (reference numbers 120_n and 125) between the control system and a plurality of the lights (Fig. 1), providing an address of the connector (reference number 120_n), wherein a light connected to the addressed connector responds to an addressed control signal that is addressed to that connector (Fig. 1), wherein the lights comprise LEDs selected from the group consisting of red, green, blue, amber, UV, orange and white LEDs (column 4, lines 30-42). Recknagel does not disclose the step of configuring the control system to respond to signals from another system of the aircraft.

Launey et al. discloses the step of configuring the control system to respond to signals from at least one other system of the aircraft (Fig. 1, column 12 in lines 1-20) and to generate lighting control signals in response to the signals from the at least one other system (Fig. 1, see the lower right portion).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Launey et al. in the apparatus of Recknagel to provide control of multiple electronic means in a manner that is easy to use. See column 3, lines 1-10, of Launey et al.

Concerning claim 33 and 71, Recknagel does not disclose a control system having an interface to an environmental system of the aircraft. Launey et al. discloses the control system having an interface to an environmental system of the aircraft (Fig. 1, column 12 in lines 1-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Launey et al. in the apparatus of Recknagel to provide control of multiple electronic means in a manner that is easy to use. See column 3, lines 1-10, of Launey.

Concerning claims 34 and 72, Recknagel et al. does not disclose the control system having an interface to another system of the aircraft. Launey et al. discloses the other system being selected from the group consisting of a navigation system, a safety system, an alarm system, a maintenance system, a communications system and an entertainment system (safey/security system, Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Launey et al. in the apparatus of Recknagel to provide control of multiple electronic means in a manner that is easy to use. See column 3, lines 1-10, of Launey et al.

Regarding claim 35, Recknagel et al. does not disclose the interior of the aircraft. Launey et al. discloses an aircraft environment selected from the group consisting of the exterior, the cabin interior, a ceiling, a floor, a cockpit, a bathroom, a kitchen, a corridor, an aisle and a seat (cabin interior, column 12 in lines 1-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Launey et al. in the apparatus of Recknagel to provide control of multiple electronic means in a manner that is easy to use. See column 3, lines 1-10, of Launey et al.

Concerning claim 36, Recknagel et al. discloses the step of providing a facility for providing lighting control using more than one environmental system (Fig. 1).

Concerning claim 69, Recknagel et al. discloses a control system for generating a lighting control signal (reference number 110) for controlling a lighting system that has a plurality of lights disposed in a plurality of positions within the environment (Fig. 1), a connector (reference numbers 120_n and 125) between the control system and a plurality of the lights (Fig. 1), and an address facility of the connector (reference number 125), wherein a light connected to the addressed connector responds to an addressed control signal that is addressed to that connector (Fig. 1). Recknagel does not disclose the step of configuring the control system to respond to signals from another system of the aircraft.

Launey et al. discloses the step of configuring the control system to respond to signals from at least one other system of the aircraft (Fig. 1, column 12 in lines 1-20) and to generate lighting control signals in response to the signals from the at least one other system (Fig. 1, see the lower right portion).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Launey et al. in the apparatus of Recknagel to provide control of multiple electronic means in a manner that is easy to use. See column 3, lines 1-10, of Launey et al.

Regarding claim 70, Recknagel et al. discloses the lights comprising LEDs selected from the group consisting of red, green, blue, amber, UV, orange and white LEDs (column 4, lines 30-42).

Regarding claim 73, Recknagel et al. does not disclose an aircraft environment. Launey et al. discloses an aircraft environment selected from the group consisting of the exterior, the cabin interior, a ceiling, a floor, a cockpit, a bathroom, a kitchen, a corridor, an aisle and a seat (cabin interior, column 12 in lines 1-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Launey et al. in the apparatus of Recknagel to provide control of multiple electronic means in a manner that is easy to use. See column 3, lines 1-10, of Launey et al.

Concerning claim 74, Recknagel et al. discloses the step of providing a facility for providing lighting control using more than one environmental system (Fig. 1).

12. Claims 37 and 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. in view of Launey et al. as applied to claims 36 and 74 above, and further in view of Tadokoro et al. (U.S. Patent 4,367,470).

Regarding claims 37 and 75, Recknagel et al. and Launey et al. do not specifically disclose a facility for prioritizing lighting commands from different lighting system control elements. Tadokoro et al. discloses the step of providing a facility for prioritizing lighting commands from different lighting control elements (column 2 in lines 5-25 and Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Tadokoro et al. in the apparatus of Recknagel et al. and

Launey et al. to reduce the amount of equipment needed to control several features of the apparatus. See column 1, line 50, to column 2, line 2, of Tadokoro et al.

Regarding claim 75, Recknagel et al. does not specifically disclose a facility for prioritizing lighting commands from different lighting system control elements. Tadokoro et al. discloses the step of providing a facility for prioritizing lighting commands from different lighting control elements (column 2 in lines 5-25 and Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Tadokoro et al. in the apparatus of Recknagel et al. to reduce the amount of equipment needed to control several features of the apparatus. See column 1, line 50, to column 2, line 2, of Tadokoro et al.

13. Claims 76, 77, 89 and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. in view of Shintani and Kuwabara et al.

Concerning claim 76, Recknagel et al. discloses the step of disposing in the environment a plurality of intelligent connectors (reference number 120_n), each intelligent connector being capable of handling addressable lighting data from a lighting control system (Fig. 1), controlling a plurality of lights using the control system to provide illumination of more than one color (abstract, Fig. 1), wherein one available color of light is white light (column 4, line 40) and another available color is non-white light (column 4, lines 30-42). Recknagel does not disclose modifying the color temperature of a white light source by mixing the light of another white light source with a different color temperature with it or a two-way data interface.

Shintani discloses a two-way data interface (reference number 77) between the lights (reference number 51E) and the control system (CPU, reference number 71).

Kuwabara et al. discloses the color temperature of at least some white light is modified by mixing light from a white source of light of a different color temperature (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the data interface of Shintani in the apparatus of Recknagel so that a CPU could be used to control the lights remotely for the convenience of the user. See Fig. 4 of Shintani

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixing apparatus of Kuwabara et al. in the apparatus of Recknagel and Shintani to produce a light source that "suppress[es] chromaticity difference[s] even in using a point light source" (column 2, lines 50-55, of Kuwabara et al.).

Regarding claim 77, Recknagel et al. discloses the intelligent connector (reference number 120_n) being located on the head end of a cable (Fig. 1).

Concerning claim 89, Recknagel et al. discloses a plurality of intelligent connectors (reference number 120_n) disposed in the environment (Figs. 1 and 2), each intelligent connector being capable of handling addressable lighting data from a lighting control system (Fig. 1), controlling a plurality of lights using the control system to provide illumination of more than one color (abstract, Fig. 1), wherein one available color of light is white light (column 4, line 40) and another available color is non-white light (column 4, lines 30-42). Recknagel does not disclose modifying the color temperature of a white light source by mixing the light of another white light source with a different color temperature with it or a two-way data interface.

Shintani discloses a two-way data interface (reference number 77) between the lights (reference number 51E) and the control system (CPU, reference number 71).

Kuwabara et al. discloses the color temperature of at least some white light is modified by mixing light from a white source of light of a different color temperature (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the data interface of Shintani in the apparatus of Recknagel so that a CPU could be used to control the lights remotely for the convenience of the user. See Fig. 4 of Shintani

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixing apparatus of Kuwabara et al. in the apparatus of Recknagel and Shintani to produce a light source that "suppress[es] chromaticity difference[s] even in using a point light source" (column 2, lines 50-55, of Kuwabara et al.).

Regarding claim 90, Recknagel et al. discloses the intelligent connector (reference number 120_n) being located on the head end of a cable (Fig. 1).

14. Claims 78 and 91 rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. in view of Shintani and Kuwabara et al. as applied to claims 76 and 89 and further in view of Mitchell (U.S. Patent 6,614,126).

Regarding claims 78 and 91, Recknagel et al., Shintani and Kuwabara et al. do not disclose the intelligent connector being located proximally to the seat of an aircraft passenger. Mitchell discloses the intelligent connector (top, Fig. 5) being located proximally to the seat of an aircraft passenger (Fig. 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Mitchell with the apparatus of Recknagel et al., Shintani and Kuwabara et al. to allow aircraft passengers to access different airplane systems while on the plane. See Fig. 5 of Mitchell.

15. Claims 79-82 and 92-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. in view of Shintani, Kuwabara et al. and Mitchell as applied to claims 78 and 91 above, and further in view of Launey et al.

Concerning claims 79 and 92, Recknagel et al., Shintani, Kuwabara et al. and Mitchell do not disclose the lighting control system being in communication with a non-lighting system of the aircraft. Launey et al. discloses the lighting control system being in communication with a non-lighting system of the aircraft (Fig. 1, column 12 in lines 1-20), the lighting control system being configured to respond to signals from the non-lighting system to provide illumination control responsive to the non-lighting system (Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Launey et al. in the apparatus of Recknagel et al., Shintani, Kuwabara et al. and Mitchell to provide control of multiple electronic means in a manner that is easy to use. See column 3, lines 1-10, of Launey et al.

Regarding claims 80 and 93, Recknagel et al. discloses the non-lighting system as an entertainment system (column 8, lines 4-35).

Concerning claims 81 and 94, Recknagel et al., Shintani and Kuwabara et al. do not disclose the non-lighting system as a communications system. Mitchell discloses the non-lighting system as a communications system (column 1, lines 59-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Mitchell with the apparatus of Recknagel et al., Shintani and Kuwabara et al. to allow aircraft passengers to access the phone system while on the plane. See column 5 in lines 59-65 of Mitchell.

Regarding claims 82 and 95, Recknagel et al., Shintani, Kuwabara et al. and Mitchell do not specifically disclose the non-lighting system as a safety system. Launey et al. discloses the non-lighting system as a safety system (security system, Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Launey et al. in the apparatus of Recknagel et al., Shintani, Kuwabara et al. and Mitchell to provide control of multiple electronic means in a manner that is easy to use. See column 3, lines 1-10, of Launey et al.

16. Claims 83-88 and 96-101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel in view of Shintani and Kuwabara et al. as applied to claims 76 and 89 above, and further in view of Speirs et al.

Concerning claim 83, Recknagel et al., Shintani and Kuwabara et al. do not disclose a transportation environment. Speirs et al. discloses the environment as a transportation environment (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the transportation environment of Speirs et al. with the apparatus of Recknagel et al., Shintani and Kuwabara et al. to enable people to be sheltered while being transported from one place to another.

Regarding claim 84, Recknagel discloses the step of providing a lighting unit adapted to connect to an intelligent connector (Fig. 1, reference numbers 120_n and 125), the lighting unit capable of responding to control signals handled by the intelligent connector (Fig. 1).

Concerning claim 85, Recknagel et al. discloses the lighting unit including a white light mode (column 4, line 40) and a non-white light mode (column 4, lines 30-42).

Regarding claim 86, Recknagel et al. discloses the white light mode of the lighting unit being capable of producing different color temperatures of white light (column 4, lines 30-42). (The colored light can be mixed in different ways to produce different color temperatures of white light.)

Concerning claim 87, Recknagel et al. discloses providing control software for controlling lighting signals sent to the addressable connectors (column 7, lines 50-67). (A bowling scoring system is software.)

Regarding claim 88, Recknagel et al. discloses the control software having a facility for associating lighting control signals with data of the environment (column 7, lines 50-67).

Regarding claim 96, Recknagel et al., Shintani and Kuwabara et al. do not disclose a transportation environment. Speirs et al. discloses the environment as a transportation environment (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the transportation environment of Speirs et al. with the apparatus of Recknagel et al., Shintani and Kuwabara et al. to enable people to be sheltered while being transported from one place to another.

Concerning claim 97, Recknagel et al. discloses a lighting unit adapted to have LEDs of red, green, blue and white colors (Fig. 1, reference numbers 120_n and 125). (The unit of Recknagel is adapted to handle any LED.)

Regarding claim 98, Recknagel et al. discloses the lighting unit including a white light mode (column 4, line 40) and a non-white light mode (column 4, lines 30-42).

Concerning claim 99, Recknagel et al. discloses the white light mode of the lighting unit being capable of producing different color temperatures of white light (column 4, lines 30-42).

(The colored light can be mixed in different ways to produce different color temperatures of white light.)

Regarding claim 100, Recknagel et al. discloses control software for controlling lighting signals sent to the addressable connectors (column 7, lines 50-67). (A bowling scoring system is software.)

Concerning claim 101, Recknagel et al. discloses the control software having a facility for associating lighting control signals with data of the environment (column 7, lines 50-67).

Response to Arguments

17. Applicant's arguments filed 13 March 2006 have been fully considered but they are not persuasive. Applicant argues that Shintani does not disclose a two-way data interface. To the contrary, reference number 77 denotes two-way data interface between the CPU and the light emitter. (The two-way data interface is between the CPU and the I/F in Fig. 4, which means that it is between the CPU and the light emitter because the light emitter is on the other side of the I/F, which means that the reference meets the requirement of the claims. (The two-way interface is between the CPU and the light source, just not immediately adjacent to the light source.)

In response to applicant's argument that Shintani is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Shintani deals with the control of the light source, which is the particular problem with which the applicant is concerned. Therefore, it is analogous art.

Applicant argues that no motivation exists to combine the references. To the contrary, the motivation is given paragraphs starting with "It would have been obvious. . . .". Applicant fails to say why this motivation is improper, and the rejections stand.

Applicant also argues that Launey fails to describe a system that makes the lighting system respond to other systems. To the contary, the control systems in the Launey reference control many systems in the home; so a signal from one system in the home goes through the control system. The control system ultimately controls the lights in response to signals from the other system. The systems are all interconnected with each other in Fig. 1, which means that the systems respond to signals from each other as they go through the control system. No other reason exists to interconnect them. Thus, the rejections stand.

The other arguments are rendered moot due to the discovery of new references.

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharon E. Payne whose telephone number is (571) 272-2379. The examiner can normally be reached on regular business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

19. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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